GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: March 7, 2005, 06:55:26 ; Search time 46.7139 Seconds
(without alignments)
919.008 Million cell updates/sec

Title: US-09-939-537-37
Perfect score: 591
Sequence: 1 TRFSRSAEPPAYQQGQNQLY.....LSTATKDTYDALHMQALPPR 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2105692 seqs, 386760381 residues

Total number of hits satisfying chosen parameters: 2105692

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_16Dec04:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	591	100.0	111	2	AAR78675	Aar78675 T-cell re
2	591	100.0	111	2	AAR89452	Aar89452 Zeta intr
3	583	98.6	142	2	AAR89461	Aar89461 Zeta intr
4	583	98.6	142	2	AAW02226	Aaw02226 T-cell re
5	583	98.6	163	2	AAY14196	Aay14196 T cell re
6	583	98.6	443	6	ABG76488	Abg76488 Humanised
7	583	98.6	443	6	ABG74240	Abg74240 Chimaeric
8	583	98.6	532	2	AAR27278	Aar27278 CD4:gamma
9	583	98.6	532	2	AAR78678	Aar78678 T-cell re
10	583	98.6	532	2	AAR89458	Aar89458 CD4:eta f
11	583	98.6	532	2	AAW02215	Aaw02215 CD4:T-cel
12	583	98.6	532	2	AAW83141	Aaw83141 Chimeric
13	572	96.8	112	8	ADL67239	Adl67239 Human CD3
14	572	96.8	163	8	ADL67237	Adl67237 Chimeric
15	572	96.8	163	8	ABO84748	Abo84748 Human can
16	572	96.8	357	5	ABG73652	Abg73652 Muvalpha-
17	572	96.8	395	5	ABG73653	Abg73653 Muvbeta-h
18	572	96.8	444	2	AAW36845	Aaw36845 Single ch
19	572	96.8	473	2	AAW26646	Aaw26646 Chimeric
20	572	96.8	514	2	AAW26647	Aaw26647 Chimeric
21	572	96.8	532	2	AAW73051	Aaw73051 Z33dCH2.z
22	572	96.8	631	7	ADH34696	Adh34696 CE7-speci
23	572	96.8	633	3	AAY84965	Aay84965 Amino aci
24	572	96.8	634	6	ABB82300	Abb82300 CD19:zeta
25	572	96.8	643	2	AAW73050	Aaw73050 Z33g2G237
26	572	96.8	643	2	AAW73048	Aaw73048 A33 chime
27	572	96.8	651	2	AAW26649	Aaw26649 Chimeric
28	572	96.8	692	2	AAW26650	Aaw26650 Chimeric
29	561.5	95.0	164	8	ABO84747	Abo84747 Human can
30	476.5	80.6	113	3	AAY52340	Aay52340 Full-leng
31	476.5	80.6	113	6	ABU08920	Abu08920 Mouse tru
32	476.5	80.6	113	7	ADH74813	Adh74813 Zeta. 4/2
33	476.5	80.6	113	7	ADH74805	Adh74805 Mouse imm
34	476.5	80.6	164	8	ABO84745	Abo84745 Mouse can
35	476.5	80.6	461	2	AAR85508	Aar85508 Leader-sc
36	476.5	80.6	483	2	AAW82315	Aaw82315 Chimeric
37	472.5	79.9	113	3	AAY52345	Aay52345 Mutant fu
38	472.5	79.9	113	6	ABU08925	Abu08925 Mouse tru
39	472.5	79.9	113	7	ADH74810	Adh74810 CD25/Zeta
40	472.5	79.9	428	2	AAW24027	Aaw24027 Single ch
41	472.5	79.9	443	2	AAW24025	Aaw24025 Single ch
42	467.5	79.1	113	3	AAY52344	Aay52344 Mutant fu
43	467.5	79.1	113	6	ABU08924	Abu08924 Mouse tru
44	467.5	79.1	113	7	ADH74809	Adh74809 CD8/ZetaY
45	378.5	64.0	206	2	AAR13273	Aar13273 Murine CD

ALIGNMENTS

RESULT 1
AAR78675
ID AAR78675 standard; protein; 111 AA.
XX
AC AAR78675;
XX
DT 12-APR-1996 (first entry)
XX
DE T-cell receptor protein zeta intracellular domain.
XX
KW Chimeric receptor; CD4; T-cell receptor zeta; HIV; cytolysis;
KW human immunodeficiency virus; adoptive immunotherapy.
XX
OS Homo sapiens.
XX
PN WO9521528-A1.
XX
PD 17-AUG-1995.
XX
PF 12-JAN-1995; 95WO-US000454.
XX
PR 14-FEB-1994; 94US-00195395.
PR 02-AUG-1994; 94US-00284391.
XX
PA (GEHO) GEN HOSPITAL CORP.
XX
PI Seed B, Banapour B, Romeo C, Kolanus W;
XX
DR WPI; 1995-292893/38.
DR N-PSDB; AAQ96105.
XX
PT Target cytolysis of HIV-infected cells - by chimeric CD4 receptor-bearing
PT cells.
XX
PS Example 10; Fig 27; 118pp; English.
XX
CC The intracellular domain (AAR78675) of human T-cell receptor protein zeta
CC is used in the construction of a chimeric receptor utilised in the
CC targeted cytolysis of cells expressing HIV envelope proteins on their
CC surface. The chimeric receptor comprises the extracellular domain (pref.
CC amino acids 1-394 or 1-200) of CD4 linked to the intracellular portion of
CC e.g. zeta
XX
SQ Sequence 111 AA;

Query Match 100.0%; Score 591; DB 2; Length 111;
Best Local Similarity 100.0%; Pred. No. 1.6e-59;
Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 TRFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 TRFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNE 60

Qy         61 LQKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 111
              |||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 LQKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 111
```

RESULT 2
AAR89452
ID AAR89452 standard; peptide; 111 AA.
XX
AC AAR89452;
XX
DT 26-SEP-1996 (first entry)
XX
DE Zeta intracellular domain.
XX
KW CD7; transmembrane domain; chimeric receptor; CD5; CD34; CH2; CH3; IgG1;
KW human; CD4; HIV; proteinaceous alpha-helix; T cell; B cell; neutrophil;
KW dendritic cell; therapy; mammal; infection.
XX
OS Homo sapiens.
XX
PN WO9603883-A1.
XX
PD 15-FEB-1996.
XX
PF 26-JUL-1995; 95WO-US009468.
XX
PR 02-AUG-1994; 94US-00284391.
PR 24-FEB-1995; 95US-00394388.
XX
PA (GEHO) GEN HOSPITAL CORP.
XX
PI Seed B, Banapour B, Romeo C, Kolanus W;
XX
DR WPI; 1996-129034/13.
DR N-PSDB; AAT10799.
XX
PT Membrane-bound chimeric receptor comprising extracellular portion
PT including CD4 fragment - cells expressing receptor can be used for
PT treatment of HIV infection.
XX
PS Example 10; Fig 27; 134pp; English.
XX
CC This sequence represents the zeta intracellular domain. This sequence is
CC included in the membrane bound proteinaceous chimeric receptor of the
CC invention. The extracellular portion of the chimeric receptor contains a
CC fragment of CD4 (amino acids 1-394 or 1-200 of the CD4 sequence see
CC AAR89450 and AAR89451) which specifically recognises and binds HIV-
CC infected cells, but does not mediate HIV infection. The extracellular
CC domain of the receptor is separated from the cell membrane by 48 or 72
CC angstroms, or by one or more proteinaceous alpha-helices. The
CC transmembrane region of the chimeric receptor contains a portion of the
CC CD7 (see AAR89440), CD5 or CD34 transmembrane domain. Alternatively, the
CC extracellular portion of the receptor can also be separated from the
CC intracellular domain by the hinge, CH2 and CH3 domains of human IgG1 (see
CC AAR89441). The cells expressing the receptor are preferably T cells, B
CC cells, neutrophils, or dendritic cells. The therapeutic cells expressing
CC the chimeric receptor are administered to a mammal to treat HIV infection
XX
SQ Sequence 111 AA;

Query Match 100.0%; Score 591; DB 2; Length 111;
Best Local Similarity 100.0%; Pred. No. 1.6e-59;
Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 TRFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 TRFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNE 60

Qy         61 LQKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 111
              |||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 LQKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 111
```

RESULT 3
AAR89461
ID AAR89461 standard; peptide; 142 AA.
XX
AC AAR89461;
XX
DT 26-SEP-1996 (first entry)
XX
DE Zeta intracellular domain.
XX
KW CD7; transmembrane domain; chimeric receptor; CD5; CD34; CH2; CH3; IgG1;
KW human; CD4; HIV; proteinaceous alpha-helix; T cell; B cell; neutrophil;
KW dendritic cell; therapy; mammal; infection.
XX
OS Homo sapiens.
XX
PN WO9603883-A1.
XX
PD 15-FEB-1996.
XX
PF 26-JUL-1995; 95WO-US009468.
XX
PR 02-AUG-1994; 94US-00284391.
PR 24-FEB-1995; 95US-00394388.
XX
PA (GEHO) GEN HOSPITAL CORP.
XX
PI Seed B, Banapour B, Romeo C, Kolanus W;
XX
DR WPI; 1996-129034/13.
XX
PT Membrane-bound chimeric receptor comprising extracellular portion
PT including CD4 fragment - cells expressing receptor can be used for
PT treatment of HIV infection.
XX
PS Example 8; Page 96; 134pp; English.
XX
CC This sequence represents the zeta intracellular domain. This sequence is
CC included in the membrane bound proteinaceous chimeric receptor of the
CC invention. The extracellular portion of the chimeric receptor contains a
CC fragment of CD4 (amino acids 1-394 or 1-200 of the CD4 sequence see
CC AAR89450 and AAR89451) which specifically recognises and binds HIV-
CC infected cells, but does not mediate HIV infection. The extracellular
CC domain of the receptor is separated from the cell membrane by 48 or 72
CC angstroms, or by one or more proteinaceous alpha-helices. The
CC transmembrane region of the chimeric receptor contains a portion of the
CC CD7 (see AAR89440), CD5 or CD34 transmembrane domain. Alternatively, the
CC extracellular portion of the receptor can also be separated from the
CC intracellular domain by the hinge, CH2 and CH3 domains of human IgG1 (see
CC AAR89441). The cells expressing the receptor are preferably T cells, B
CC cells, neutrophils, or dendritic cells. The therapeutic cells expressing
CC the chimeric receptor are administered to a mammal to treat HIV infection
XX
SQ Sequence 142 AA;

Query Match 98.6%; Score 583; DB 2; Length 142;
Best Local Similarity 99.1%; Pred. No. 1.8e-58;
Matches 109; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy          2 RFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 61
              :||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         33 KFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 92

Qy         62 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 111
              |||||||||||||||||||||||||||||||||||||||||||||||||||
Db         93 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 142
```

```
RESULT 4
AAW02226
ID   AAW02226 standard; peptide; 142 AA.
XX
AC   AAW02226;
XX
DT   11-NOV-1996  (first entry)
XX
DE   T-cell receptor zeta chain.
XX
KW   Chimaeric receptor; cellular immunity; adoptive immunotherapy; CD16;
KW   human immunodeficiency virus type 1; HIV-1; AIDS; therapy;
KW   T-cell receptor zeta chain; cytotoxic T lymphocyte; CTL.
XX
OS   Homo sapiens.
XX
PN   WO9625953-A1.
XX
PD   29-AUG-1996.
XX
PF   25-JAN-1996;   96WO-US001056.
XX
PR   24-FEB-1995;   95US-00394176.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
XX
PI   Seed B,  Romeo C,  Kolanus W;
XX
DR   WPI; 1996-402134/40.
XX
PT   Direction of cellular immune response using therapeutic cell expressing 2
PT   chimaeric receptors - comprising region binding to target cell and region
PT   that signals target cell destruction, or CD28 region, partic. for
PT   eliminating HIV-infected cells.
XX
PS   Example 8; Fig 8a; 120pp; English.
XX
CC   Most of the intracellular domain of the human T cell receptor zeta chain
CC   (AAW02226) could be removed with little consequence for cytolytic
CC   potential of CD16:zeta chimaeras. A full length chimaera, CD16:zeta, was
CC   essentially equal in efficacy for lysing hybridoma cells expressing
CC   membrane-bound anti-CD16 antibodies to a chimaera deleted to residue 65
CC   of zeta. A substantial decrease in toxicity was observed on further
CC   deletion to residue 59, and further deletion to residue 50 resulted in
CC   slightly less activity. CD16:zeta chimaeras can be used to direct
CC   cytolytic activity to target cells
XX
SQ   Sequence 142 AA;

  Query Match             98.6%;  Score 583;  DB 2;  Length 142;
  Best Local Similarity   99.1%;  Pred. No. 1.8e-58;
  Matches  109;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 RFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 61
              :||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         33 KFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 92

Qy         62 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 111
              ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         93 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 142


RESULT 5
AAY14196
ID   AAY14196 standard; protein; 163 AA.
XX
AC   AAY14196;
XX
DT   27-JUL-1999  (first entry)
XX
DE   T cell receptor zeta chain protein sequence.
XX
KW   T cell receptor zeta chain protein; autoimmune disease; diagnosis; SLE;
KW   Systemic lupus erythematosus; therapy.
XX
OS   Homo sapiens.
XX
PN   JP11123082-A.
XX
PD   11-MAY-1999.
XX
PF   23-OCT-1997;   97JP-00309302.
XX
PR   23-OCT-1997;   97JP-00309302.
XX
PA   (TAKE/) TAKEUCHI T.
PA   (NOBE-) NOBEL IGAKU KENKYUSHO YG.
XX
DR   WPI; 1999-340518/29.
DR   N-PSDB; AAX61131.
XX
PT   New T cell receptor zeta chain protein - useful for detecting auto-immune
PT   disease.
XX
PS   Claim 3; Page 12-13; 22pp; Japanese.
XX
CC   This sequence is the T cell receptor zeta chain protein of the invention,
CC   which is used for detecting an autoimmune disease in a patient. The
CC   protein can be used for detecting autoimmune disease affliction. Systemic
CC   lupus erythematosus (SLE) can be diagnosed by detecting the mutation of T
CC   cell zeta chain gene and can be treated by complementing the detected
CC   mutation with a normal zeta chain gene or zeta chain protein
XX
SQ   Sequence 163 AA;

  Query Match             98.6%;  Score 583;  DB 2;  Length 163;
  Best Local Similarity   99.1%;  Pred. No. 2.1e-58;
  Matches  109;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 RFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 61
              :||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         54 KFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 113

Qy         62 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 111
              ||||||||||||||||||||||||||||||||||||||||||||||||||
Db        114 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 163


RESULT 6
ABG76488
ID   ABG76488 standard; protein; 443 AA.
XX
AC   ABG76488;
XX
DT   13-MAY-2003  (first entry)
XX
DE   Humanised anti-CEA antibody, hMN14.
XX
KW   CEA; carcinoembryonic antigen; IgTCR; T-cell receptor; cancer; tumour;
KW   colorectal cancer; breast cancer; lung cancer; hMN14; cytostatic; mouse;
KW   human; zeta signalling chain; CD8alpha hinge; humanised antibody.
XX
OS   Homo sapiens.
OS   Mus sp.
OS   Synthetic.
OS   Chimeric.
XX
PN   US2002165360-A1.
XX
PD   07-NOV-2002.
XX
PF   10-DEC-2001; 2001US-00006771.
XX
PR   30-NOV-2000; 2000US-0250087P.
PR   30-NOV-2000; 2000US-0250090P.
```

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XX
PA   (JUNG/) JUNGHANS R P.
XX
PI   Junghans RP;
XX
DR   WPI; 2003-298705/29.
DR   N-PSDB; ABX13168.
XX
PT   New chimeric molecule from humanized antibody against carcinoembryonic
PT   antigen and having signaling molecules of T cells and other effector
PT   cells, useful for the treatment of colorectal, breast and lung cancers.
XX
PS   Disclosure; Page 7-8; 20pp; English.
XX
CC   The invention relates to a chimaeric molecule comprising the
CC   carcinoembryonic antigen (CEA) binding domain of humanised antibody MN14
CC   as a single chain antibody with a (GGSGS)3 linker, the zeta signaling
CC   chain of the T cell receptor (TCR) and an intervening CD8alpha hinge in
CC   which the cysteine residues have been mutated, with the IgTCR molecule
CC   occupying nucleotides 2426-3766 of the retroviral vector sequence.
CC   appearing as ABX13168. The new chimaeric molecule expressed in T cells,
CC   NK (not defined) or other effector cells are useful in treating patients
CC   with cancers expressing the CEA antigen, together with other or with
CC   heterologous constructs to engage additional stimulatory and functional
CC   properties of the effector cells to enhance the anti-tumour therapeutic
CC   efficacy. The cancer disorder includes colorectal, breast and lung
CC   cancers. The present sequence represents the chimaeric molecule of the
CC   invention
XX
SQ   Sequence 443 AA;

  Query Match             98.6%;  Score 583;  DB 6;  Length 443;
  Best Local Similarity   99.1%;  Pred. No. 7.3e-58;
  Matches  109;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 RFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 61
              :||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        334 KFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 393

Qy         62 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 111
              ||||||||||||||||||||||||||||||||||||||||||||||||||
Db        394 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 443


RESULT 7
ABG74240
ID   ABG74240 standard; protein; 443 AA.
XX
AC   ABG74240;
XX
DT   23-OCT-2003  (revised)
DT   22-APR-2003  (first entry)
XX
DE   Chimaeric hMN14/T-cell receptor.
XX
KW   Retroviral vector; T-cell receptor; hMN14; antibody; IgTCR; receptor;
KW   cytostatic; dermatological; neuroprotective; immunostimulant; GD3;
KW   ganglioside antigen; MB3.6; PSMA; tumour; 3D8; 4D4; 3E11;
KW   prostate-specific membrane antigen; zeta signalling chain; human; cancer;
KW   melanoma; neuroendocrine tumour; prostate cancer; small cell lung cancer;
KW   mouse; CD8alpha hinge.
XX
OS   Homo sapiens.
OS   Mus sp.
OS   Chimeric.
XX
PN   US2002132983-A1.
XX
PD   19-SEP-2002.
XX
PF   10-DEC-2001; 2001US-00006773.
XX
PR   30-NOV-2000; 2000US-0250087P.
PR   30-NOV-2000; 2000US-0250089P.
XX
PA   (JUNG/) JUNGHANS R P.
XX
PI   Junghans RP;
XX
DR   WPI; 2003-208946/20.
DR   N-PSDB; ABX16565.
XX
PT   New chimeric molecule useful in treating patients with disorders, such as
PT   melanoma, neuroendocrine disorders, prostate and small cell lung cancer
PT   comprises GD3 and/or PSMA binding domains of antibody.
XX
PS   Disclosure; Page 7-8; 35pp; English.
XX
CC   The invention relates to a chimaeric molecule comprising the GD3
CC   (ganglioside antigen) binding domain of antibody MB3.6, with any of 3
CC   variable gene sequences, or the PSMA (prostate-specific membrane antigen)
CC   binding domain of antibody 3D8, 4D4 and 3E11, with variable gene
CC   sequences, the zeta signalling chain of the T cell receptor and an
CC   intervening CD8alpha hinge in which cysteine residues have been mutated.
CC   The chimaeric molecules expressed in T cells or NK cells or other
CC   effector cells are useful in treating patients with cancers expressing
CC   the GD3 (MB3.6 derivatives) or PSMA antigen (3D8, 4D4, 3E11 derivatives),
CC   and/or together with each other or with heterologous constructs to engage
CC   additional stimulatory and functional properties of the effector cells to
CC   enhance the antitumour therapeutic efficacy (claimed). They are
CC   particularly useful in disorders including melanoma, neuroendocrine
CC   tumours and prostate and small cell lung cancer. The present sequence is
CC   a hMN14 antibody (specific to CEA antigen) in a fusion protein with the
CC   modified CD8alpha hinge and the T-cell receptor zeta chain (IgTCR)
CC   encoded by a retroviral vector. The hMN14 antibody coding region is
CC   replaced with the MB3.6, 3D8, 4D4 or 3E11 genes of the invention.
CC   (Updated on 23-OCT-2003 to standardise OS field)
XX
SQ   Sequence 443 AA;

  Query Match             98.6%;  Score 583;  DB 6;  Length 443;
  Best Local Similarity   99.1%;  Pred. No. 7.3e-58;
  Matches  109;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 RFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 61
              :||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        334 KFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 393

Qy         62 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 111
              ||||||||||||||||||||||||||||||||||||||||||||||||||
Db        394 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 443


RESULT 8
AAR27278
ID   AAR27278 standard; protein; 532 AA.
XX
AC   AAR27278;
XX
DT   25-MAR-2003  (revised)
DT   28-JUL-1995  (first entry)
XX
DE   CD4:gamma peptide chimeric protein.
XX
KW   Fusion protein; CD4; extracellular domain; zeta; eta; gamma;
KW   membrane spanning domain; intracellular domain; type I;
KW   integral membrane homodimer; TCR; T cell antigen receptor;
KW   extracellular domain; mouse; human; receptor; chimera;
KW   HPB-ALL tumour cell line; natural killer cell.
XX
OS   Homo sapiens.
XX
PN   WO9215322-A1.
XX
PD   17-SEP-1992.
XX
```

PF 06-MAR-1992; 92WO-US001785.
XX
PR 07-MAR-1991; 91US-00665961.
XX
PA (GEHO) GEN HOSPITAL CORP.
XX
PI Seed B, Romeo C, Kolanus W;
XX
DR WPI; 1992-331474/40.
DR N-PSDB; AAQ28706.
XX
PT Therapeutic cells expressing chimeric receptors - directing cellular
PT response to an infective agent, useful in treating HIV-1, AIDS
PT Pneumocystis carinii infections etc.
XX
PS Example 2; Page 74-76; 114pp; English.
XX
CC This sequence represents a fusion protein between the CD4 extracellular
CC domain and the gamma protein membrane spanning domain and intracellular
CC domain. The Fc-receptor-associated gamma chain is expressed in cell
CC surface complexes with additional polypeptides, some of which mediate
CC ligand recognition, and others which have undefined function. Gamma bears
CC a homodimeric structure and overall organisation very similar to that of
CC zeta (see also AAQ28704), and is a component of both the mast
CC cell/basophil high affinity IgE receptor, Fc-epsilon-RI, which consists
CC of at least three distinct polypeptide chains and one of the low affinity
CC receptors for IgG, represented in mice by Fc-gamma-RII-alpha. In the
CC production of the CD4 receptor chimera, the gamma cDNA was isolated from
CC the HPB-ALL tumour cell line and from human natural killer cells. The
CC gamma cDNA was joined to the extracellular domain by engineering a BamHI
CC site just upstream of the membrane spanning domain, by a BamHI site
CC naturally present a few residues upstream of the membrane spanning
CC domain. (Updated on 25-MAR-2003 to correct PN field.)
XX
SQ Sequence 532 AA;

Query Match 98.6%; Score 583; DB 2; Length 532;
Best Local Similarity 99.1%; Pred. No. 9.2e-58;
Matches 109; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 2 RFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 61
:||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 423 KFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 482

Qy 62 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 111
||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 483 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 532

RESULT 9
AAR78678
ID AAR78678 standard; protein; 532 AA.
XX
AC AAR78678;
XX
DT 16-APR-1996 (first entry)
XX
DE T-cell receptor eta.
XX
KW Chimeric receptor; CD4; T-cell receptor eta; HIV; cytolysis;
KW human immunodeficiency virus; adoptive immunotherapy.
XX
OS Homo sapiens.
XX
PN WO9521528-A1.
XX
PD 17-AUG-1995.
XX
PF 12-JAN-1995; 95WO-US000454.
XX
PR 14-FEB-1994; 94US-00195395.
PR 02-AUG-1994; 94US-00284391.
XX
PA (GEHO) GEN HOSPITAL CORP.
XX
PI Seed B, Banapour B, Romeo C, Kolanus W;
XX
DR WPI; 1995-292893/38.
DR N-PSDB; AAQ96124.
XX
PT Target cytolysis of HIV-infected cells - by chimeric CD4 receptor-bearing
PT cells.
XX
PS Example 2; Page 78-79; 118pp; English.
XX
CC Fusion proteins comprising the extracellular domain of CD4 fused to T-
CC cell receptor zeta, gamma or eta (AAR78676-78, respectively) were
CC expressed in CV1 using a vaccine virus vector. These CD4:zeta, CD4:gamma
CC and CD4:eta chimeric receptors mediated cytolysis of targets expressing
CC HIV gp120/41
XX
SQ Sequence 532 AA;

Query Match 98.6%; Score 583; DB 2; Length 532;
Best Local Similarity 99.1%; Pred. No. 9.2e-58;
Matches 109; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 2 RFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 61
:||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 423 KFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 482

Qy 62 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 111
||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 483 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 532

RESULT 10
AAR89458
ID AAR89458 standard; protein; 532 AA.
XX
AC AAR89458;
XX
DT 26-SEP-1996 (first entry)
XX
DE CD4:eta fusion protein.
XX
KW CD7; transmembrane domain; chimeric receptor; CD5; CD34; CH2; CH3; IgG1;
KW human; CD4; HIV; proteinaceous alpha-helix; T cell; B cell; neutrophil;
KW dendritic cell; therapy; mammal; infection.
XX
OS Synthetic.
XX
PN WO9603883-A1.
XX
PD 15-FEB-1996.
XX
PF 26-JUL-1995; 95WO-US009468.
XX
PR 02-AUG-1994; 94US-00284391.
PR 24-FEB-1995; 95US-00394388.
XX
PA (GEHO) GEN HOSPITAL CORP.
XX
PI Seed B, Banapour B, Romeo C, Kolanus W;
XX
DR WPI; 1996-129034/13.
DR N-PSDB; AAT10803.
XX
PT Membrane-bound chimeric receptor comprising extracellular portion
PT including CD4 fragment - cells expressing receptor can be used for
PT treatment of HIV infection.
XX
PS Example 2; Page 80-81; 134pp; English.
XX
CC AAT10801-T10803 represent membrane bound proteinaceous chimeric receptors
CC of the invention. This sequence represents the CD4:eta chimera. The

```
CC   transmembrane region of the chimeric receptor acts to separate the
CC   intracellular and extracellular domains of the chimera, and contains a
CC   portion of the CD7 (see AAR89440), CD5 or CD34 transmembrane domains.
CC   Alternatively, the extracellular portion of the receptor can be separated
CC   from the intracellular domain by the hinge, CH2 and CH3 domains of human
CC   IgG1 (see AAR89441). The extracellular portion of the chimeric receptor
CC   contains a fragment of CD4 (amino acids 1-394 or 1-200 of the CD4
CC   sequence, see AAR89450 and AAR89451) which specifically recognises and
CC   binds HIV-infected cells, but does not mediate HIV infection. The
CC   extracellular domain of the receptor is separated from the cell membrane
CC   by 48 or 72 angstroms, or by one or more proteinaceous alpha-helices. The
CC   cells expressing the receptor are preferably T cells, B cells,
CC   neutrophils, or dendritic cells. The therapeutic cells expressing the
CC   chimeric receptor are administered to a mammal to treat HIV infection
XX
SQ   Sequence 532 AA;

  Query Match             98.6%;  Score 583;  DB 2;  Length 532;
  Best Local Similarity   99.1%;  Pred. No. 9.2e-58;
  Matches  109;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 RFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 61
              :||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        423 KFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 482

Qy         62 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 111
              ||||||||||||||||||||||||||||||||||||||||||||||||||
Db        483 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 532


RESULT 11
AAW02215
ID   AAW02215 standard; protein; 532 AA.
XX
AC   AAW02215;
XX
DT   16-OCT-2003  (revised)
DT   11-NOV-1996  (first entry)
XX
DE   CD4:T-cell receptor eta chain chimaeric receptor.
XX
KW   Chimaeric receptor; cellular immunity; adoptive immunotherapy; CD4;
KW   human immunodeficiency virus type 1; HIV-1; AIDS; therapy;
KW   T-cell receptor eta chain; cytotoxic T lymphocyte; CTL.
XX
OS   Homo; sapiens.
OS   Mus sp.
OS   Chimeric.
XX
FH   Key             Location/Qualifiers
FT   Domain          1. .393
FT                   /label= Extracellular_domain
FT                   /note= "CD4 extracellular domain"
FT   Region          394. .396
FT                   /label= Linker
FT                   /note= "encoding DNA contains a BamHI site used for
FT                   fusion construction"
FT   Region          397. .532
FT                   /note= "region of fusion derived from eta chain,
FT                   preferred signal-transducing portions for constructs of
FT                   the invention are amino acids 421-532, 423-455, 438-455,
FT                   461-494, 494-528 or 400-420"
FT   Domain          400. .437
FT                   /label= Transmembrane_domain
FT                   /note= "eta chain transmembrane domain"
FT   Domain          438. .575
FT                   /label= Intracellular_domain
FT                   /note= "eta chain intracellular domain"
XX
PN   WO9625953-A1.
XX
PD   29-AUG-1996.
XX
PF   25-JAN-1996;   96WO-US001056.
XX
PR   24-FEB-1995;   95US-00394176.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
XX
PI   Seed B,  Romeo C,  Kolanus W;
XX
DR   WPI; 1996-402134/40.
DR   N-PSDB; AAT36760.
XX
PT   Direction of cellular immune response using therapeutic cell expressing 2
PT   chimaeric receptors - comprising region binding to target cell and region
PT   that signals target cell destruction, or CD28 region, partic. for
PT   eliminating HIV-infected cells.
XX
PS   Claim 7; Page 77-78; 120pp; English.
XX
CC   A chimaeric receptor (AAW00215) comprises the extracellular domain of an
CC   engineered form of the CD4 cellular receptor for HIV and the
CC   transmembrane and intracellular regions, including the cytolytic signal-
CC   transducing portion, of the mouse T-cell receptor eta chain. It can be
CC   obtd. by inserting a gene fusion (AAT36760) into a vaccinia virus vector
CC   and expression in host cells. Chimaeric receptors comprising CD4 fused to
CC   eta, eta (see also AAW02213) or Fc receptor gamma (see also AAW02214)
CC   chains are capable of directing cytotoxic T lymphocytes to specifically
CC   recognise and kill cells expressing HIV gp120, thus providing a therapy
CC   for AIDS. (Updated on 16-OCT-2003 to standardise OS field)
XX
SQ   Sequence 532 AA;

  Query Match             98.6%;  Score 583;  DB 2;  Length 532;
  Best Local Similarity   99.1%;  Pred. No. 9.2e-58;
  Matches  109;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 RFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 61
              :||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        423 KFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 482

Qy         62 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 111
              ||||||||||||||||||||||||||||||||||||||||||||||||||
Db        483 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 532


RESULT 12
AAW83141
ID   AAW83141 standard; protein; 532 AA.
XX
AC   AAW83141;
XX
DT   03-FEB-1999  (first entry)
XX
DE   Chimeric receptor containing human eta polypeptide.
XX
KW   Human; zeta; eta; gamma; membrane-bound chimeric receptor; infection;
KW   tumour; cancer cell; autoimmune-generated cell; T cell receptor; CD3;
KW   CD4; B cell receptor; Fc receptor; pathogen; bacterial; fungal;
KW   protozoan; viral.
XX
OS   Synthetic.
OS   Homo sapiens.
XX
PN   US5843728-A.
XX
PD   01-DEC-1998.
XX
PF   05-APR-1995;   95US-00417495.
XX
PR   07-MAR-1991;   91US-00665961.
PR   06-MAR-1992;   92US-00847566.
PR   28-FEB-1994;   94US-00203866.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
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XX
PI   Romeo C,  Kolanus W,  Seed B;
XX
DR   WPI; 1999-044582/04.
DR   N-PSDB; AAV70157.
XX
PT   Membrane-bound chimeric receptors - comprising extracellular portion
PT   which recognises and binds a target cell and an intracellular portion of
PT   e.g. a T-cell receptor.
XX
PS   Claim 11; Col 45-48; 57pp; English.
XX
CC   The present invention describes DNA encoding a membrane-bound chimeric
CC   receptor comprising: (a) an extracellular portion that specifically
CC   recognises and binds a target cell or a target infective agent; and (b)
CC   an intracellular portion of a T-cell receptor CD3, zeta or eta
CC   polypeptide, a B-cell receptor polypeptide or an Fc receptor polypeptide.
CC   The present sequence represents a chimeric receptor containing the human
CC   eta polypeptide. Cells expressing chimeric receptors of the present
CC   invention can be administered to mammals in order to destroy pathogens
CC   (e.g. bacteria, fungi, protozoa or viruses, especially HIV), cancer cells
CC   or autoimmune-generated cells
XX
SQ   Sequence 532 AA;

  Query Match             98.6%;  Score 583;  DB 2;  Length 532;
  Best Local Similarity   99.1%;  Pred. No. 9.2e-58;
  Matches  109;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 RFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 61
              :||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        423 KFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 482

Qy         62 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 111
              |||||||||||||||||||||||||||||||||||||||||||||||||||
Db        483 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 532


RESULT 13
ADL67239
ID   ADL67239 standard; protein; 112 AA.
XX
AC   ADL67239;
XX
DT   20-MAY-2004  (first entry)
XX
DE   Human CD3 zeta chain intracellular domain.
XX
KW   T cell receptor; TCR; CD3 zeta chain; co-stimulatory signalling region;
KW   binding element; immunostimulant; therapy; cancer; human.
XX
OS   Homo sapiens.
XX
PN   US2004043401-A1.
XX
PD   04-MAR-2004.
XX
PF   28-MAY-2003; 2003US-00448256.
XX
PR   28-MAY-2002; 2002US-0383872P.
XX
PA   (SLOK ) SLOAN KETTERING INST CANCER RES.
XX
PI   Sadelain M,  Brentjens R,  Maher J;
XX
DR   WPI; 2004-225696/21.
DR   N-PSDB; ADL67228.
XX
PT   New nucleic acid polymer encoding a chimeric T cell receptor having a
PT   zeta chain portion, useful for treating disorders where the immune
PT   response needs to be induced, such as cancer.
XX
PS   Disclosure; SEQ ID NO 14; 25pp; English.
XX
CC   The invention relates to a nucleic acid polymer encoding a chimeric T
CC   cell receptor (TCR) which comprises human CD3 zeta chain intracellular
CC   domain, a co-stimulatory signalling region and a binding element that
CC   specifically interacts with a selected target. The methods and
CC   compositions of the invention are useful for treating disorders where the
CC   immune response needs to be induced, such as cancer. The present sequence
CC   is human CD3 zeta chain intracellular domain.
XX
SQ   Sequence 112 AA;

  Query Match             96.8%;  Score 572;  DB 8;  Length 112;
  Best Local Similarity   97.3%;  Pred. No. 2.4e-57;
  Matches  107;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 RFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 61
              :|||||: ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          3 KFSRSADAPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 62

Qy         62 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 111
              ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         63 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 112


RESULT 14
ADL67237
ID   ADL67237 standard; protein; 163 AA.
XX
AC   ADL67237;
XX
DT   20-MAY-2004  (first entry)
XX
DE   Chimeric TCR related human protein #3.
XX
KW   T cell receptor; TCR; CD3 zeta chain; co-stimulatory signalling region;
KW   binding element; immunostimulant; therapy; cancer; human.
XX
OS   Homo sapiens.
XX
PN   US2004043401-A1.
XX
PD   04-MAR-2004.
XX
PF   28-MAY-2003; 2003US-00448256.
XX
PR   28-MAY-2002; 2002US-0383872P.
XX
PA   (SLOK ) SLOAN KETTERING INST CANCER RES.
XX
PI   Sadelain M,  Brentjens R,  Maher J;
XX
DR   WPI; 2004-225696/21.
XX
PT   New nucleic acid polymer encoding a chimeric T cell receptor having a
PT   zeta chain portion, useful for treating disorders where the immune
PT   response needs to be induced, such as cancer.
XX
PS   Disclosure; SEQ ID NO 12; 25pp; English.
XX
CC   The invention relates to a nucleic acid polymer encoding a chimeric T
CC   cell receptor (TCR) which comprises human CD3 zeta chain intracellular
CC   domain, a co-stimulatory signalling region and a binding element that
CC   specifically interacts with a selected target. The methods and
CC   compositions of the invention are useful for treating disorders where the
CC   immune response needs to be induced, such as cancer. The present sequence
CC   is human protein related to the invention.
XX
SQ   Sequence 163 AA;

  Query Match             96.8%;  Score 572;  DB 8;  Length 163;
  Best Local Similarity   97.3%;  Pred. No. 3.8e-57;
  Matches  107;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;
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Qy          2 RFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 61
              :|||||: ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         54 KFSRSADAPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 113

Qy         62 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 111
              ||||||||||||||||||||||||||||||||||||||||||||||||||
Db        114 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 163
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RESULT 15
ABO84748
ID ABO84748 standard; protein; 163 AA.
XX
AC ABO84748;
XX
DT 18-NOV-2004 (first entry)
XX
DE Human cancer-associated protein HP23-013.2.
XX
KW Human; cancer-associated protein; cytostatic; cancer; leukaemia;
KW lymphoma; CAP.
XX
OS Homo sapiens.
XX
PN WO2004074320-A2.
XX
PD 02-SEP-2004.
XX
PF 17-FEB-2004; 2004WO-US004730.
XX
PR 14-FEB-2003; 2003US-00367094.
PR 14-MAR-2003; 2003US-00388838.
PR 15-APR-2003; 2003US-00417375.
PR 13-JUN-2003; 2003US-00461862.
PR 15-SEP-2003; 2003US-00663431.
PR 15-DEC-2003; 2003US-00737318.
XX
PA (SAGR-) SAGRES DISCOVERY INC.
XX
PI Morris DW, Morris DW, Malandro MS;
XX
DR WPI; 2004-652914/63.
DR N-PSDB; ABD33068.
XX
PT New isolated cancer-associated polynucleotides and polypeptides useful
PT for diagnosing, preventing or treating cancers, especially lymphoma and
PT leukemia, or in screening for agents that modulate cancer.
XX
PS claim 18; seqid 882; 310pp; English.
XX
CC The invention relates to an isolated nucleic acid comprising at least 10
CC contiguous nucleotides of any of the 233 polynucleotide sequences given
CC in the specification, or its complement. The nucleic acids encode cancer-
CC associated proteins. Also included are an expression vector comprising
CC the isolated nucleic acid cited above, a host cell comprising the above
CC recombinant nucleic acid or expression vector, a microarray for detecting
CC a cancer-associated (CA) nucleic acid comprising at least one probe
CC comprising at least 10 contiguous nucleotides of any of the above-
CC mentioned nucleotide sequences, an isolated polypeptide (encoded within
CC an open reading frame of a CA sequence selected from any of the 95
CC polynucleotide sequences as mentioned in the specification, or its
CC complement), an isolated antibody, (or its antigen binding fragment) that
CC binds to the above polypeptide, a hybridoma that produces the above
CC monoclonal antibody, a pharmaceutical composition comprising the above
CC antibody and a pharmaceutical excipient, a kit for detecting cancer
CC cells(comprising the antibody cited above, methods for diagnosing cancer
CC or for detecting the presence or absence of cancer cells in an
CC individual, a method for inhibiting growth of cancer cells in an
CC individual, a method for delivering a therapeutic agent to cancer cells
CC in an individual, an electronic library comprising the above
CC polynucleotide or polypeptide (or their fragments), methods of screening
CC for anticancer activity or for a bioactive agent capable of modulating
CC the activity of a CA protein (CAP), methods for detecting cancer
CC associated with expression of a polypeptide in a test cell sample, a
CC method for treating cancers and a method for inhibiting the expression of
CC CA gene in a cell. The composition and methods are useful for detecting,
CC diagnosing, preventing and treating cancers, especially lymphoma and
CC leukaemia. These may also be used in screening for agents that modulate
CC cancer. The present sequence is a human CAP protein sequence. Note: The
CC sequence data for this patent did not form part of the printed
CC specification, but was obtained in electronic format directly from WIPO
CC at ftp.wipo.int/pub/published_pct_sequences
XX
SQ Sequence 163 AA;

```
  Query Match             96.8%;  Score 572;  DB 8;  Length 163;
  Best Local Similarity   97.3%;  Pred. No. 3.8e-57;
  Matches  107;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 RFSRSAEPPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 61
              :|||||: ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         54 KFSRSADAPAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPRRKNPQEGLYNEL 113

Qy         62 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 111
              ||||||||||||||||||||||||||||||||||||||||||||||||||
Db        114 QKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR 163
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Search completed: March 7, 2005, 07:13:07
Job time : 48.7139 secs